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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/549,464

09/14/2005

Stilian Ganchev

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EXAMINER

LE, DAVID D

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/549,464	Applicant(s) GANCHEV, STILIAN	
	Examiner David D. Le	Art Unit 3681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 September 0200 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This is the first Office action on the merits of Application No. 10,549,464, filed on 14 September 2005. Claims 6-10 are pending.

Documents

2. The following documents have been received and filed as part of the patent application:
 - A Copy of Foreign Priority Document, received on 09/14/05

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, *the differential clutches* must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet”

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pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 6-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The present specification fails to adequately disclose how, specifically, the differential clutches are properly operated in the hydraulic differential. In other words, the present specification does not sufficiently describe how the differential clutches are operated in the hydraulic differential in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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7. Claims 6-10 are rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

The claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.

Claim 6:

- Line 2 recites the limitation "the common driving unit". There is insufficient antecedent basis for this limitation in the claim.
- Line 2 recites the limitation "the hydraulic differential control". There is insufficient antecedent basis for this limitation in the claim.
- Line 5 recites the limitation "their control elements". There is insufficient antecedent basis for this limitation in the claim. It is also unclear what the term "their" is specifically referring to.
- Line 6 recites the limitation "the gate of the main distributor". There is insufficient antecedent basis for this limitation in the claim.
- Lines 7-8 recite, in part, the limitation "their periphery". It is unclear whether the term "their" is referring to the ends of the cylinder or the two identical discs.
- Line 9 recites the limitation "its longitudinal axis". There is insufficient antecedent basis for this limitation in the claim. Also, it is unclear what "its" is referring to.

- Lines 12-13 recite, in part, the limitation “separate hydraulic loops”. It is unclear whether these newly recited “separate hydraulic loops” are different from the ones, which are first recited on lines 1-2 of claim 6.
- Line 14 recites the limitation "its longitudinal axis". There is insufficient antecedent basis for this limitation in the claim. Also, it is unclear what "its" is referring to.
- Lines 14-15 recite the limitation "its transverse plane of symmetry". There is insufficient antecedent basis for this limitation in the claim. Also, it is unclear what "its" is referring to.
- Line 15 recites the limitation "the rotating axis". There is insufficient antecedent basis for this limitation in the claim.
- Line 16 recites the limitation “its”. It is unclear what “its” is referring to.

Claim 7:

- Line 3 recites the limitation "the differential clutches". There is insufficient antecedent basis for this limitation in the claim.
- Line 4 recites the limitation "the devices". There is insufficient antecedent basis for this limitation in the claim. It is also unclear which devices that the claimed limitation is referring to.
- Line 5 recites the limitation “its”. It is unclear what “its” is referring to.
- Line 5 recites the limitation "the cylindrical surface". There is insufficient antecedent basis for this limitation in the claim.

- Line 8 recites the limitation "the axial channel". There is insufficient antecedent basis for this limitation in the claim.
- Line 12 recites the limitation "channels". It is unclear whether these newly recited "channels" are different from the ones, which are first recited on line 2 of claim 7.
- Line 15 recites the limitation "its". It is unclear what "its" is referring to.
- Line 16 recites the limitation "the longitudinal axes". There is insufficient antecedent basis for this limitation in the claim.

Claim 8:

- Line 2 recites the limitation "separate branches". It is unclear whether these newly recited "separate branches" are different from the ones, which are first recited on line 4 of claim 6.
- Line 3 recites the limitation "the additional collectors". There is insufficient antecedent basis for this limitation in the claim.
- Line 6 recites the limitation "the space". There is insufficient antecedent basis for this limitation in the claim.
- Line 7 recites the limitation "the space". There is insufficient antecedent basis for this limitation in the claim.
- Line 11 recites the limitation "the head". There is insufficient antecedent basis for this limitation in the claim.

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- Line 12 recites the limitation "its open position". There is insufficient antecedent basis for this limitation in the claim. It is also unclear what "its" is referring to.
- Line 14 recites the limitation "its axis of rotation". There is insufficient antecedent basis for this limitation in the claim. It is also unclear what "its" is referring to.
- Line 15 recites the limitation "the bodies". There is insufficient antecedent basis for this limitation in the claim.

Claim 9:

- Line 2 recites the limitation "separate branches". It is unclear whether these newly recited "separate branches" are different from the ones, which are first recited on line 4 of claim 6.

Claim 10:

- Line 3 recites the limitation "the high pressure collectors". There is insufficient antecedent basis for this limitation in the claim.
- Lines 3-4 recite, in part, the limitation "the low pressure collectors". There is insufficient antecedent basis for this limitation in the claim.
- Line 6 recites the limitation "its axis of rotation". There is insufficient antecedent basis for this limitation in the claim. It is also unclear what "its" is referring to.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Davidsson (U. S. Patent No. 7,204,170) discloses a hydraulically operated differential clutch, as shown in Fig. 1.
- Duan (U. S. Patent No. 6,544,136) discloses a differential device, as shown in Fig. 1.
- Ganthev (U. S. Patent No. 6,505,722) teaches a hydraulic differential, as shown in Fig. 1.
- Richards (U. S. Patent No. 6,189,668) teaches a rotational output control system, as shown in Fig. 4.
- Lundstrom (U. S. Patent No. 5,979,631) discloses a hydraulically operated differential clutch, as shown in Fig. 1.
- Lundstrom et al. (U. S. Patent No. 5,469,950) discloses a hydraulically operated differential clutch, as shown in Fig. 1.
- Williamson (U. S. Patent No. 4,630,505) teaches a hydraulic-controlled differential, as shown in Fig. 1.
- K. H. Nicholls et al. (U. S. Patent No. 2,583,704) teaches a hydraulic-controlled differential, as shown in Fig. 1.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Le whose telephone number is 571-272-7092. The examiner can normally be reached on Mon-Fri (0700-1530).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David D. Le/
Primary Examiner, Art Unit 3681
03/17/2008

ddl